

University of Groningen

Influence of social support on health among gender and socio-economic groups of adolescents

Geckova, A; van Dijk, JP; Stewart, R; Groothoff, JW; Post, D

Published in:
European Journal of Public Health

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2003

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Geckova, A., van Dijk, JP., Stewart, R., Groothoff, JW., & Post, D. (2003). Influence of social support on health among gender and socio-economic groups of adolescents. *European Journal of Public Health*, 13(1), 44-50.

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Influence of social support on health among gender and socio-economic groups of adolescents

ANDREA GECKOVÁ, JITSE P. VAN DIJK, ROY STEWART, JOHAN W. GROOTHOFF, DOEKE POST *

Background: The influence of social support on health was explored among gender and socio-economic groups with the aim of contributing to the explanation of socio-economic health differences among Slovak adolescents. **Methods:** The sample consisted of 2616 Slovak adolescents (52.4% male, 47.6% female, mean age 15 years). The data were assessed by a self-reported questionnaire including measures of social support, socio-economic status and health. **Results:** There are significant gender differences in social support, which are unfavourable for males. On the other hand, there are significant gender differences in health, unfavourable for females. Low social support is significantly related to worse health. There are significant socio-economic differences in both health and social support, which are unfavourable for lower socio-economic groups. Three groups, females, adolescents from lower socio-economic groups, and also adolescents reporting low social support, less frequently consider their health as excellent or very good. Females suffer from more health complaints, report worse psychological health, vitality and mental health in comparison to males, to adolescents from higher socio-economic groups, and to adolescents reporting high social support. Males and adolescents from lower socio-economic groups more frequently reported low social support in comparison to females and adolescents from higher socio-economic groups. No significant differences in the influence of social support on health among gender and socio-economic groups of adolescents were confirmed. **Conclusion:** Social support is related to health and it is unequally distributed among gender and socio-economic groups. Social support had a positive impact on health, but this effect was independent of gender and socio-economic groups.

Keywords: gender, health, Slovak adolescents, social support, socio-economic status

The influence of social support on health has attracted considerable research attention. Social support may have both direct and indirect effect on health. Social support, including emotional, instrumental, informational and appraisal support may influence the health irrespective of exposure to stressors. According to Pratt,¹ there are several ways in which types of social support may protect the health of adolescents. i) Emotional support may reinforce self-esteem, a sense that one's person and body are worth caring for and protecting, and thereby encourage people to take control of their health and well-being by developing a health-promoting regimen. ii) Instrumental support may facilitate health practices by helping to change intentions into actions. iii) Informational support also comprises health education, providing guidelines for health behaviour, developing a coping style of seeking information and applying it in decisions on health care. iv) Appraisal support may be behavioural guidance and may enhance people's motivation to protect their health. The buffer hypothesis states that social support is especially important when the individual is exposed to

life stress. Social support may buffer undesirable effects of stress on health.^{2–5}

Several authors have confirmed the health-protective influence of social support. Boyce et al.⁶ found that adolescent mothers reporting a richer, more differentiated social network were characterized by better outcomes in the field of lifestyle, school, promiscuity, role adaptation, and care for the baby. Cheever and Hardin⁷ supported the role of social support in preventing decline in adolescents' health assessment after traumatic events: when social support decreased, adolescents' health assessments worsened. Social support and psychological coping skills are statistically independent psychosocial resources, and they operate in a conjunctive manner to influence the relation between life stress and subsequent athletic injury among adolescents.⁸ Life stress and low social support from the baseline level influenced subsequent health symptom scores.⁵ Adolescents who reported not talking to anyone when they were upset, revealed higher levels of depressive symptoms than did adolescents who disclosed when upset.⁹ Parental social support influences the physical health of rural adolescents.¹⁰ Feelings of depression are lower among adolescents who feel involved at school and report warm and supportive relationships with family members; and feeling involved at school is also associated with higher self-reported health status among adolescents.¹¹ Social support makes significant contributions to the prediction of subsequent psychological distress.^{12,13} Using a cross-sectional design,

* A. Gecková¹, J.P. van Dijk², R. Stewart², J.W. Groothoff², D. Post²

¹ Institute of Social Sciences, Faculty of Science, P.J. Safarik University in Kosice, Slovak Republic

² Department of Social Medicine / Northern Centre for Healthcare Research, University of Groningen, The Netherlands

Correspondence: Andrea Gecková, PhD, Institute of Social Sciences, Faculty of Science, P.J. Safarik University, Manesova 23, 041 54 Kosice, Slovak Republic, e-mail: geckova@kosice.upjs.sk

DuBois et al.¹² found social support from family members and friends to be correlated to lower levels of psychological distress, but support from school personnel appears not to be correlated significantly with psychological distress. Using a longitudinal design, they reported contrary findings. Higher initial reported levels of school personnel support were related to a reduced level of distress at follow-up, while social support from family members and friends were not.¹² Additional analysis revealed the buffer and compensatory role of social support. The number of major events was more strongly related to ratings of psychological distress among youth reporting low levels of support from school personnel. Ratings of support from school personnel were more strongly related to reduced psychological distress among youths, who reported a low level of support from family.¹² Analysis of the reverse influence indicated a reciprocal pattern of stress and support linked to adaptation. Psychological distress was related significantly to increased daily hassles and reduced family support at follow-up, whereas grades were predictive of higher levels of support from friends.¹² Social support received from family members was associated prospectively with reduced levels of psychological distress.¹³ Social support received from school personnel was particularly important for reducing psychological distress among socio-economic disadvantaged adolescents and adolescents who reported receiving relatively low levels of support from family members.¹³

Social support appears to be a salient factor affecting health. With regard to the buffer role of social support, its influence on health may be stronger among disadvantaged groups, who are exposed to stress, life events and daily hassles more than the others. Social support can contribute considerably to the explanation of socio-economic health differences. Additionally, due to differences in socialization and different gender roles one can suppose adverse gender differences in health and social support. There is a huge amount of literature confirming worse health in females, but in the case of social support, females seem to be advantaged in comparison with males.

The main aim of this paper is to explore the influence of social support on health among gender and socio-economic groups of adolescents. To establish a basis for the main analysis (research), gender and socio-economic differences in health and social support of adolescents were explored. The research aims to find answers to the following questions:

- Is there any significant influence of social support on the health of adolescents?
- Are there any differences in the influence of social support on health among gender and socio-economic groups of adolescents?

MATERIAL AND METHODS

Procedure and respondents

The sample consisted of 2616 first grade students of 31 secondary schools located in Kosice (52.4% boys, 47.6% girls, and mean age 15 years). The sample was stratified according to gender and types of secondary schools; the

proportion of the five educational levels of the regular Slovak school system was maintained as can be seen in table 1.

Individual schools were selected at random. Respondents completed the questionnaire at school in their classrooms, under the guidance of the field workers. Data were collected in September and October 1998. The response rate was 96.3%; the non-response was due to illness and other types of absence. The average occurrence of missing values was 2.1%.

Measures of social support

Testing for the measure of social support investigated adolescents' perception of their opportunity for talking to somebody about the following five topics: school problems, relationship problems, decisions about the future, health problems, and psychological problems. Adolescents who reported that they have nobody to talk to about at least one of the five topics were indicated as having low social support. Using this criterion, 31% of the males and 22% of the females reported that they had low social support. In these groups, 14% of adolescents reported they have nobody to talk to about just one of the five topics and only 0.5% of adolescents reported they have nobody to talk to about all five topics. These adolescents mostly have nobody to talk to about psychological problems and relationship problems. A similar measure of social support was used by Peek and Lin⁴ and Schraedley et al.⁹

Measures of SES

Two types of socio-economic indicators were used. The first one is based on parents: father's education, mother's education, father's occupational class, and mother's occupational class. The second one is based on adolescents: the type of school they attend.

Adolescents reported about their father's and mother's highest successfully completed level of education. Educational level was classified as: 'university' (father 20.8%, mother 15.6%), 'secondary high school' (father 36.6%, mother 52.8%), 'vocational or primary school only' (father 42.7%, mother 31.6%).

The measure of occupational class of parents is based on asking adolescents about their father's and mother's current occupation, or their previous occupation if they were currently unemployed. The information obtained was transformed into nine categories of ISCO.^{14,15}

Table 1 The sample

	Population ^a (%)			Sample (%)		
	Male	Female	Total	Male	Female	Total
Grammar school	19.4	28.3	23.9	19.4	24.5	21.8
Technical school	31.3	45.6	38.6	38.0	47.3	42.4
Apprentice school	49.3	26.1	37.5	42.6	28.3	35.7

a: Distribution of students in first grade of post-elementary schools in Slovakia 1998 (based on official statistical data - Ustav informacii a prognov skolstva. Bratislava).

Finally, some categories were combined. The 'high SES group' includes i) legislators, senior officials and managers, and ii) professionals (father 23.4%, mother 16.7%), the 'medium SES group' includes iii) technicians and associated professionals, iv) clerks and v) service workers and shop and market sales workers (father 21.4%, mother 58.9%), and the 'low SES group' includes vi) skilled agricultural and fishery workers, vii) craft and related trades workers, viii) plant and machine operators and assemblers, and ix) elementary occupations (father 55.2%, mother 24.4%).

Adolescents were divided according to the type of school they attended into three groups: i) grammar school students (21.8%), ii) secondary technical school students (42.4%) and iii) apprentice school students (35.7%).

Measures of health

'Self-reported health' was measured by asking the respondents to describe their health as excellent (male 29.2% / female 18.7%), very good (male 39.6% / female 36.4%), good (male 27.1% / female 40.1%), fairly good (male 3.1% / female 4.1%) or bad (male 1.0% / female 0.7%). The variable was dichotomized: i) excellent, very good, ii) good, fairly good or bad health. The dichotomization is due to better sensitivity of the indicators, and to the idea that 'good health' is not enough in adolescents. Evaluation of health as a 'good' should be considered as under average evaluation.

'Experienced health complaints' were measured by the Slovak version of the shortened 13-item version of the VOEG.^{16,17} This questionnaire shows a valid and reliable picture of the current health status, expressed in physical health complaints.¹⁸ A five-anchor scale expressing the frequency of suffering from the included health complaints during the previous month in the Slovak version. A cut-off point of three times and more was used in the study for dichotomization. The sum score of the VOEG, varying from 0–13, was examined. A higher score indicates more frequent occurrence of health complaints.

'Psychological health' was measured by the Slovak version of the 12-item version of the General Health Questionnaire (GHQ).¹⁹ The GHQ is a self-reported questionnaire consisting of statements about aspects of well-being, such as worries, tension or sleeplessness. With each statement, the current status of the respondent over the previous four weeks is compared with his or her normal status by one of four response categories. Two methods of scoring are used; a Likert score (range 0–36) and a binary score (range 0–12). A higher score indicates worse psychological health. The binary score permits the identification of 'cases', or in other words a level of symptomatology of potential clinical relevance. A cut-off point of 2/3 was used as a criterion for identification of 'cases' in adolescence.²⁰

Two subscales of the Slovak version of the RAND-36²¹ were used to measure 'vitality and mental health'. The four items of the vitality scale focus on feelings of energy and fatigue. The scale of mental health has five items representing feelings of depression and nervousness. The

respondents were asked to evaluate their feelings over the previous four weeks. The scores were transformed following the prescribed formula (range 0–100). A higher score indicates better health status.

Analysis

The analysis was done using the statistical software package SPSS, version 7.5.2. First, the main effects of SES and gender on health were explored using logistic regression and ANOVA. Secondly, the main effects of SES and gender on social support were explored using logistic regression. Finally, changes in the main effects of social support on health were explored, comparing the following models: a model without gender and SES (only the main effect of social support on health is included), a model without SES (only the main effects of social support and gender on health are included), and models with SES (including the main effect of social support, gender and also SES on health). Logistic regression and ANOVA were used. The intention was to explore if there are significant differences in the effect of social support on health among gender and socio-economic groups of adolescents. Analysis was done separately for each of five socio-economic indicators (father's education, mother's education, father's occupational group, mother's occupational group, type of school) and each of the six health indicators (self-reported health, health complaints, psychological health, occurrence of 'cases', vitality, and mental health).

RESULTS

Table 2 presents the percentages of reported good, fairly good or bad health, the mean sum of health complaints, the mean sum of GHQ-12, the percentage indicated as a 'case', the mean sum of the vitality scale, and the mental health scale of RAND-36 compared with gender, socio-economic, and social support groups of adolescents.

Table 3 presents the percentages of reported low social support in gender and socio-economic groups of adolescents.

Several gender and socio-economic health differences were confirmed among adolescents as can be seen in table 4.

There are significant gender differences in health which are unfavourable for females. More females than males reported bad, fairly good or good health. Females suffer from more health complaints in comparison to males. Females report worse psychological health than males; more females than males were indicated as a 'case'. Females reported worse vitality and mental health than males.

More males than females perceived low social support, or in other words, reported that they could not talk to anybody about at least one subject. Gender differences are significant.

Significant socio-economic differences in self-reported health were confirmed using all five types of socio-economic indicators. There are significant socio-economic differences in health complaints experienced and in psychological health when the mother's educational level

is used, and in health complaints, vitality and mental health when the mother's occupational group is used as a socio-economic indicator. The type of school influences the health complaints experienced and the mental health of adolescents. These differences are unfavourable for lower SES groups, as can be seen in *table 2*. There is some inconsistency in the findings related to the effect of the mother's occupation group on the vitality and mental health of adolescents. Additional analysis revealed a significant difference between medium and low SES groups only, which fits the pattern of health disadvantage of lower SES groups.

Significant socio-economic differences in social support unfavourable for lower SES groups were also confirmed using all five types of SES indicators, as can be seen in *table 4*. As *table 3* shows, adolescents reporting low social support more frequently considered their health as only good, fairly good or bad in comparison with adolescents reporting high social support. They suffer from more health complaints. 'Low social support adolescents' reported worse psychological health, and they were also indicated as a 'case' more frequently in comparison with adolescents reporting high social support. In addition, they reported lower vitality and worse mental health than 'high social support adolescents'.

Adolescents reporting that they have nobody to talk to about problems, are characterized by worse health: they less frequently consider their health as excellent or very good, suffer from more health complaints, and report worse psychological health, vitality and mental health (*table 3*). The influence of social support on health remains significant in all explored models, as can be seen in *table 5*.

Finally, it was explored if there are any differences in the effect of social support on health among gender and socio-economic groups of adolescents, comparing the main effect of social support on health in models including and not including the variables explored (gender, SES). Confidence intervals for beta were compared for continuous variables and confidence intervals for the odds ratio were compared for dichotomous variables. As *table 5* shows, no significant differences in the effect of social support on health among gender and socio-economic groups of adolescents were confirmed. The effect of social support on health is independent of gender or SES.

DISCUSSION

Gender and socio-economic differences in health and social support and then the influence of social support on

Table 2 Description of health indicators in compared gender, socio-economic and social support groups of adolescents

	Percentage reporting bad, fairly good or good health	Mean sum of health complaints (0–13)	Psychological health: mean sum (0–12)	Psychological health: percentage of 'cases'	Mean sum of vitality scale (0–100)	Mean sum of mental health scale (0–100)
Sum	37.7	2.29	10.40	32.2	61.08	64.14
Gender						
Male	31.1	1.76	9.34	23.9	64.19	67.58
Female	44.9	2.86	11.57	41.3	57.71	60.39
SES						
Father's educational level						
University	29.6	2.10	10.71	31.5	61.46	64.58
Secondary high school	35.7	2.22	10.38	34.6	61.71	64.53
Vocational/primary only	43.0	2.42	10.26	31.0	60.20	63.53
Mother's educational level						
University	27.6	2.10	10.62	32.0	61.70	65.00
Secondary high school	36.1	2.24	10.49	34.0	61.58	64.53
Vocational/primary only	44.7	2.48	10.10	31.4	60.22	63.31
Father's occupational group						
High SES	30.1	2.07	10.59	32.1	61.63	64.52
Medium SES	37.7	2.32	10.65	34.8	61.13	63.44
Low SES	39.5	2.35	10.27	31.7	60.58	61.10
Mother's occupational group						
High SES	28.4	2.11	10.86	35.2	60.79	64.07
Medium SES	37.3	2.26	10.33	30.4	62.01	65.01
Low SES	44.6	2.51	10.36	32.9	59.29	62.24
Type of school						
Grammar school	30.8	2.22	10.81	31.5	62.00	64.75
Technical school	36.2	2.24	10.63	33.3	60.63	64.39
Apprentice school	43.8	2.39	9.88	31.4	61.05	63.42
Social support						
Low social support	44.7	2.72	11.46	42.6	56.99	60.15
High social support	35.1	2.14	10.03	28.6	62.68	65.57

health were explored among gender and socio-economic groups of adolescents. Finally, differences in the influence of social support on health between these groups were explored.

Findings reinforce evidence of gender differences in social support which are unfavourable for males in comparison

with females. Females reported experiencing higher levels of social support,⁹ and they were more likely seek help,²² spend more time thinking and being with peers²³ than did males, and these differences cannot be attributed to gender differences in health which are unfavourable for females.²²

As a result of socialization and differences in gender roles, not only quantitative, but also qualitative differences in social support among adolescents were found.^{24–28} Piko²⁴ finds that girls received more emotional, informational and practical support, while boys received more rational-material support. While emotional and informational support was more supportive for health among girls, rational-material support proved to be a more influential factor among boys.²⁴ According to Wilson et al.²⁷ females seek out, prefer, and are more receptive to emotional support, and males seek out, prefer, and are more receptive to instrumental support. Instrumental support was more beneficial to boys than emotional support in reducing cardio-vascular reactivity.

Findings attracting attention are adverse gender differences in social support and health. Females are characterized by poorer health, but higher levels of social support than males. Similar findings were confirmed by Piko:²⁴ females got more emotional and informational support, and reported more psychosomatic symptoms and psychological problems than males. It can be supposed that the higher amount of received social support among females is due to their poorer health than males. Rickwood and Braithwaite²² do not support this, however: gender differences in social support remain significant after symptoms of psychological distress were controlled. As pointed out earlier, there is a huge amount of literature supporting the health-protective influence of social support.^{6–13} Ystgaard et al.⁵ found that males were protected by social support from family and peers when

Table 3 Description of social support in gender and socio-economic groups of adolescents

	Percentage reporting low social support
Sum	26.8
Gender	
Male	31.1
Female	22.3
Father's educational level	
University	20.6
Secondary high school	24.0
Vocational/primary only	32.2
Mother's educational level	
University	19.8
Secondary high school	24.2
Vocational/primary only	34.0
Father's occupational group	
High SES	20.5
Medium SES	20.9
Low SES	30.4
Mother's occupational group	
High SES	17.9
Medium SES	24.9
Low SES	33.3
Type of school	
Grammar school	17.7
Technical school	22.2
Apprentice school	38.1

Table 4 Socio-economic and gender differences in health and social support among adolescents

	Self-reported health 0/1	Health complaints 0–13	Psychological health mean sum 0–36	Psychological health 'cases' 0/1	Vitality 0–100	Mental health 0–100	Social support 0/1
Father's educational level							
SES	0.000	0.083	0.119	0.289	0.288	0.645	0.000
Gender	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mother's educational level							
SES	0.000	0.038	0.053	0.405	0.315	0.355	0.000
Gender	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Father's occupational group							
SES	0.001	0.153	0.149	0.410	0.679	0.699	0.000
Gender	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mother's occupational group							
SES	0.000	0.040	0.153	0.147	0.011	0.008	0.000
Gender	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Type of school							
SES	0.000	0.003	0.058	0.588	0.114	0.007	0.000
Gender	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Significance of main effect of socio-economic status and gender on health. Models were fitted for each indicator of socio-economic status and each health indicator separately. ANOVA for continuous and logistic regression for dichotomous health indicators were used.

they were exposed to stressors, while females were not, and Schraedley et al.⁹ found that females' depressive symptoms were influenced by their level of social support, but males' were not. Piko²⁴ reported that social support did not prove to be a strong correlate of health, either among boys or among girls. Findings here on the other hand confirm strong and consistent influence of social support on health among adolescents. Adolescents who reported low social support were characterized by worse health, e.g. worse self-reported health, more health complaints, worse psychological health, worse mental health, or higher incidence of depression.

More evidence offered by the literature supports 'absence'^{29–37} compared with 'presence'^{11,38,39} of socio-economic health differences in adolescence. According to Stronks et al.,³ socio-economic health differences may be explained by an uneven distribution of psychosocial stressors (differential exposure) as well as their differential health impact (differential vulnerability). Support has been found for the hypothesis of differential exposure:³ there was higher exposure to stressors in lower socio-economic groups and this higher exposure contributed to the observed socio-economic inequalities in perceived health problems. Stronks et al.³ did not find consistent evidence for stressors having a stronger health impact in

lower socio-economic groups, as is supposed in the differential vulnerability hypothesis. In contrast to this, DuBois et al.¹³ reported that socio-economic disadvantage is related to higher vulnerability to life events and greater potential to benefit from social support received from adults in schools, which is more consistent with the hypothesis of differential vulnerability. Current findings do not confirm differential vulnerability in connection with social support, only varying distribution of social support among socio-economic groups of adolescents. No significant differences in the effect of social support on health among socio-economic groups of adolescents were confirmed, but strong and consistent socio-economic differences in social support among adolescents were confirmed. Adolescents from lower socio-economic groups more frequently reported low social support.

In many studies of youth, only father's SES has been investigated. According to some studies,^{40–42} socio-economic characteristics of the mother are even more important for health and health-related behaviour of children and adolescents than those of the father. The social role of the mother includes monitoring health symptoms of the family members, taking care about health of the family members.⁴³ As described elsewhere⁴⁴ adolescents most frequently talk about selected problems

Table 5 Differences in influence of social support on health among gender and socio-economic groups of adolescents. Parameters of main effect of social support on health

	B	SE	OR	95% CI for OR/B ^a	
				Lower	Upper
Self-reported health					
Model without gender and SES	−0.395	0.092	0.674	0.563	0.806
Model without SES	−0.480	0.094	0.619	0.515	0.743
Model with SES (father's occupational group)	−0.480	0.100	0.619	0.508	0.753
Experienced health complaints					
Model without gender and SES	−0.562	0.109		−0.775	−0.349
Model without SES	−0.689	0.106		−0.897	−0.481
Model with SES (father's occupational group)	−0.691	0.112		−0.911	−0.471
Psychological health (mean sum)					
Model without gender and SES	−1.420	0.238		−1.886	−0.954
Model without SES	−1.694	0.232		−2.149	−1.238
Model with SES (father's occupational group)	−1.788	0.244		−2.267	−1.309
Psychological health ('cases')					
Model without gender and SES	−0.617	0.094	0.540	0.449	0.649
Model without SES	−0.752	0.097	0.472	0.390	0.571
Model with SES (father's occupational group)	−0.800	0.104	0.449	0.367	0.551
Vitality (mean sum)					
Model without gender and SES	5.589	0.804		4.012	7.165
Model without SES	6.395	0.792		4.843	7.947
Model with SES (father's occupational group)	6.542	0.841		4.893	8.190
Mental health (mean sum)					
Model without gender and SES	5.232	0.776		3.707	6.757
Model without SES	6.129	0.760		4.638	7.620
Model with SES (father's occupational group)	5.898	0.811		4.307	7.489

a: 95% CI for B were computed for continuous variables (ANOVA) and OR, and 95% CI for OR were computed for dichotomous variables (logistic regression).

Model without gender and SES: Main effect of social support on health.

Model without SES: Main effect of social support and gender on health.

Model with SES: Main effect of social support, gender and SES on health.

Only parameters related to the main effect of social support on health are included into the table.

(school problems, relationship problems, decisions about future, health problems, psychological problems) with their mother. If mothers are an important source of social support, it can be supposed their socio-economic characteristic, particularly their educational level, including their health knowledge will be a more important factor influencing the adolescent's health than those of the father. This issue requires additional work.

REFERENCES

- 1 Pratt L, Bandura B, Kickbush I, editors. Health promotion research. Copenhagen: World Health Organization for Europe, 1991:10. The social support functions of the family, pp. 229-50.
- 2 Koubekova E. Charakteristiky socialnej podpory pubescentov v kontexte copingu. *Psychologia a patopsychologia dietata* 1997;32(2):107-14.
- 3 Stronks K, van de Mheen H, Looman CWN, Mackenbach JP. The importance of psychosocial stressors for socio-economic inequalities in perceived health. *Soc Sci Med* 1998;46(4-5):611-23.
- 4 Peek MK, Lin N. Age differences in the effects of network composition on psychological distress. *Soc Sci Med* 1999;49:621-36.
- 5 Ystgaard M, Tambs K, Dalgard OS. Life stress, social support and psychological distress in late adolescence: a longitudinal study. *Soc Psychiatry Psychiatr Epidemiol* 1999;34:12-9.
- 6 Boyce WT, Kay M, Uitti Ch. The taxonomy of social support: an ethnographic analysis among adolescent mothers. *Soc Sci Med* 1988;26(11):1079-85.
- 7 Cheever KH, Hardin SB. Effects of traumatic events, social support, and self-efficacy on adolescents' self-health assessments. *Western J Nursing Res* 1999;21(5):673-84.
- 8 Smith RE, Smoll FL, Ptacek JT. Conjunctive moderator variables in vulnerability and resiliency research: life stress, social support and coping skills, and adolescent sport injuries. *J Personality Soc Psychol* 1990;58(2):360-70.
- 9 Schraedley PK, Gotlib IH, Hayward Ch. Gender differences in correlates of depressive symptoms in adolescents. *J Adolescent Health* 1999;25:98-108.
- 10 Wickrama KAS, Lorenz FO, Conger RD. Parental support and adolescent physical health status: a latent growth-curve analysis. *J Health Soc Behav* 1997;38:149-63.
- 11 Call KT, Nonnemaker J. Socioeconomic disparities in adolescent health: contributing factors. *Ann NY Acad Sci* 2000:352-5.
- 12 DuBois DL, Felner RD, Brand S, Adan AM, Evans EG. A prospective study of life stress, social support, and adaptation in early adolescence. *Child Dev* 1992;63:542-57.
- 13 DuBois DL, Felner RD, Mearns H, Krier M. Prospective investigation of the effects of socioeconomic disadvantage, life stress, and social support on early adolescent adjustment. *J Abnormal Psychol* 1994;103(3):511-22.
- 14 ISCO - manual I. Jednotná sústava sociálno-ekonomických klasifikácií časť 7. Klasifikácia zamestnaní. Federálny štatistický úrad. (ISCO I). 1 edition. Bratislava: ŠEVT, 1992.
- 15 ISCO - manual II. Klasifikácia zamestnaní. Vysvetlivky štatistického úradu Slovenskej republiky. Bratislava: ŠEVT, 1993.
- 16 Dirken JM. Het meten van "stres" in industriële situaties: een multidisciplinaire ontwikkeling van een algemeen diagnosticum. University of Amsterdam, 1967.
- 17 Jansen ME, Sikkeld D. Verkorte versie van de Statistiek: langdurige aandoeningen bij de bevolking 1991, 1992. *Vademecum Gezondheidsstatistiek Nederland*, 1994.
- 18 Furur JW, Koning-Zahn C, Tax B. Het meten van de gezondheidstoestand: deel 3. Assen: Van Gorcum, 1995.
- 19 Goldberg D, Williams P. A user's guide to the GHQ. Windsor: NFER-Nelson, 1988.
- 20 Banks MH. Validation of the GHQ in a young community sample. *Psychol Med* 1983;13:349-53.
- 21 Van der Zee K, Sanderma R. Het meten van de algemene gezondheidstoestand, Rand-36: een handleiding. Groningen: NCH, University of Groningen, 1993.
- 22 Rickwood DJ, Braithwaite VA. Social-psychological factors affecting help-seeking for emotional problems. *Soc Sci Med* 1994;39(4):563-72.
- 23 Richards MH, Crowe PA, Larson R, Swar A. Developmental patterns and gender differences in the experience of peer companionship during adolescence. *Child Dev* 1998;69(1):154-63.
- 24 Piko B. Social support and health in adolescence: a factor analytical study. *Br J Health Psychol* 1998;3:333-44.
- 25 Felmler DH. Social norms in same- and cross-gender friendships. *Soc Psychol Q* 1999;62(1):53-67.
- 26 Rahkonen O, Arber S, Lahelma E. Health inequalities in early adulthood: a comparison of young men and women in Britain and Finland. *Soc Sci Med* 1995;41(2):163-71.
- 27 Wilson DK, Kliewer W, Bayer L, Jones D, Welleford A, Heiney M, Sica DA. The influence of gender and emotional versus instrumental support on cardiovascular reactivity in African-American adolescents. *Ann Behav Med* 1999;21(3):235-43.
- 28 Bank BJ, Hansford SL. Gender and friendship: Why are men's best same-sex friendships less intimate and supportive? *Pers Relat* 2000;7:63-78.
- 29 West P. Inequalities? Social class differentials in health in British youth. *Soc Sci Med* 1988;27(4):291-6.
- 30 West P, Macintyre S, Annandale E, Hunt K. Social class and health in youth: findings from The West of Scotland Twenty-07 Study. *Soc Sci Med* 1990;30(6):665-73.
- 31 Macintyre S, West P. Lack of class variation in health in adolescence: an artefact of an occupational measure of social class? *Soc Sci Med* 1991;32(4):395-402.
- 32 Glendinning A, Love JG, Hendry LB, Shucksmith J. Adolescence and health inequalities: extensions to Macintyre and West. *Soc Sci Med* 1992;35(5):679-87.
- 33 Ecob R, Macintyre S, West P. Reporting by parents of longstanding illness in their adolescent children. *Soc Sci Med* 1993;36(8):1017-22.
- 34 Ford G, Ecob R, Hunt K, Macintyre S, West P. Patterns of class inequality in health through the lifespan: class gradients at 15, 35 and 55 years in the west of Scotland. *Soc Sci Med* 1994;39(8):1037-50.
- 35 West P, Ford G, Hunt K, Macintyre S, Ecob R. How sick is the west of Scotland? Age specific comparisons with national datasets on a range of health measures. *Scot Med J* 1994;39:101-9.
- 36 West P. Health inequalities in the early years: is there equalisation in youth? *Soc Sci Med* 1997;44(6):833-58.
- 37 Tuinstra J. Health in adolescence: an empirical study of social inequality in health, health risk behaviour and decision making styles. Northern Centre for Healthcare Research, 1998.
- 38 Halldórsson M, Cavelaars AEJM, Kunst AE, Mackenbach JP. Socioeconomic differences in health and well-being of children and adolescents in Iceland. *Scand J Public Health* 1999;1(1):43-7.
- 39 Gecková A, van Dijk JP, Pudelsky M, Tuinstra J, Groothoff JW, Post D. Socio-economic inequalities in health among Slovak adolescents. *Soc Prev Med* 2002 (submitted).
- 40 Rahkonen O, Lahelma E. Gender, social class and illness among young people. *Soc Sci Med* 1992;34(6):649-56.
- 41 van der Lucht F, Groothoff JW. Social inequalities and health among children aged 10-11 in The Netherlands: causes and consequences. *Soc Sci Med* 1995;40(9):1305-11.
- 42 Gecková A, van Dijk JP, Honcariv R, Groothoff JW, Post D. Influence of health risk behaviour and socio-economic status on health of Slovak adolescents. *Studia Psychologica* 2002 (submitted).
- 43 Gijsbers van Wijk CMT, Kolk AM. Sex differences in physical symptoms: the contributions of symptom perception theory. *Soc Sci Med* 1997;45(2):231-46.
- 44 Gecková A, Pudelsky M, Tuinstra J. Kontakty s rovesníkmi, sociálna sieť a sociálna podpora z pohľadu adolescentov (Peers' contacts, social network, and social support from adolescent's point of view). *Psychologia a patopsychologia dietata* 2000;32(2):121-36.

Received 25 June 2001, accepted 21 March 2002